

Appln. No. 09/882,098
Amendment dated December 15, 2004
Reply to Office Action mailed September 15, 2004

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims (deleted text being struck through and added text being underlined):

1 1. (Original) In a network comprising a plurality of computing
2 devices, each computing device having a memory and being capable of
3 accessing the Internet, and at least one of the computing devices being
4 capable of connecting to the Internet, each computing device capable
5 of connecting to the Internet having a connection priority, a method
6 for assigning an Internet gateway for the network, comprising the
7 steps of:

8 broadcasting to the network a request to become the gateway
9 from one of the computing devices capable of connecting to the
10 Internet, wherein the request to become the gateway includes the
11 connection priority of the computing device broadcasting the request;
12 and

13 assigning the computing device broadcasting the request as the
14 gateway for the network if the computing device broadcasting the
15 request does not receive a response from the other computing devices
16 within a predetermined time period.

1 2. (Original) The method of claim 1, wherein the predetermined
2 time period is approximately 1 to 5 seconds.

1 3. (Original) The method of claim 1, wherein each computing
2 device is assigned a unique Internet protocol (IP) address, further
3 comprising the steps of:

4 broadcasting to the network the IP address of the computing
5 device assigned as the gateway for the network; and

6 storing in the memory of each computing device the IP address

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7 broadcasted to the network as the IP address of the gateway for the
8 network.

1 4. (Original) The method of claim 1, wherein the computing
2 device assigned as the gateway for the network is assigned a unique
3 client IP address and assumes a predetermined gateway IP address.

1 5. (Original) The method of claim 1, wherein one of the
2 computing devices is capable of operating as a proxy for the Internet
3 gateway and is capable of being assigned a unique client IP address
4 and a proxy IP address, and further wherein at least one of the other
5 computing devices is capable of accessing the Internet by performing
6 the steps of:

7 transmitting from the respective computing device to the proxy
8 IP address of the proxy a message to be sent to the Internet; and
9 transmitting from the proxy IP address of the proxy to the
10 computing device assigned as the gateway for the network the message
11 to be sent to the Internet.

1 6. (Original) The method of claim 1, wherein at least one of the
2 other computing devices capable of connecting to the Internet
3 responds to the broadcasted request to become the gateway by
4 performing the step of:

5 determining whether the connection priority of the respective
6 computing device is higher than the connection priority included in
7 the broadcasted request to become the gateway;

8 if the connection priority of the respective computing device is
9 not higher than the connection priority included in the broadcasted
10 request, sending no response to the broadcasted request; and

11 if the connection priority of the respective computing device is
12 higher than the connection priority included in the broadcast request,

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13 performing the steps of:

14 broadcasting to the network a request to become the
15 gateway from the respective computing device within the
16 predetermined time period, wherein the request to become the
17 gateway includes the connection priority of the respective
18 computing device; and

19 assigning the respective computing device as the gateway
20 for the network if the respective computing device receives no
21 response from the other computing devices within the
22 predetermined time period.

1 7. (Original) The method of claim 6, wherein the predetermined
2 time period is approximately 1 to 5 seconds.

1 8. (Original) The method of claim 6, wherein each computing
2 device is assigned a unique Internet protocol (IP) address, further
3 comprising the step of:

4 broadcasting to the network the IP address of the computing
5 device assigned as the gateway for the network; and
6 storing in the memory of each computing device the IP address
7 broadcasted to the network as the IP address of the gateway for the
8 network.

1 9. (Original) The method of claim 6, wherein the computing
2 device assigned as the gateway for the network is assigned a unique
3 client IP address and assumes a predetermined gateway IP address.

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1 10. (Original) The method of claim 6, wherein one of the
2 computing devices is capable of operating as a proxy for the Internet
3 gateway and is capable of being assigned a unique client IP address
4 and a proxy IP address, further wherein at least one of the other
5 computing devices is capable of accessing the Internet by performing
6 the steps of:

7 transmitting from the respective computing device to the proxy a
8 IP address of the proxy a message to be sent to the Internet; and

9 transmitting from the proxy IP address of the proxy to the
10 computing device assigned as the gateway for the network the message
11 to be sent to the Internet.

1 11. (Original) A storage medium readable by a computing device
2 and having instructions encoded thereon for causing the computing
3 device to perform, in a network comprising a plurality of computing
4 devices, each computing device having a memory and being capable of
5 accessing the Internet, and at least one of the computing devices being
6 capable of connecting to the Internet, each computing device capable
7 of connecting to the Internet having a connection priority, a method
8 for assigning an Internet gateway for the network, the method
9 comprising the steps of:

10 broadcasting to the network a request to become the gateway
11 from one of the computing devices capable of connecting to the
12 Internet, wherein the request to become the gateway includes the
13 connection priority of the computing device broadcasting the request;
14 and

15 assigning the computing device broadcasting the request as the
16 gateway for the network if the computing device broadcasting the
17 request does not receive a response from the other computing devices
18 within a predetermined time period.

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1 12. (Original) The storage medium of claim 11, wherein each
2 computing device is assigned a unique Internet protocol (IP) address,
3 and further wherein the method further comprises the steps of:

4 broadcasting to the network the IP address of the computing
5 device assigned as the gateway for the network; and

6 storing in the memory of each computing device the IP address
7 broadcasted to the network as the IP address of the gateway for the
8 network.

1 13. (Original) The storage medium of claim 11, wherein the
2 computing device assigned as the gateway for the network is assigned
3 a unique client IP address and assumes a predetermined gateway IP
4 address.

1 14. (Original) The storage medium of claim 11, wherein one of
2 the computing devices is capable of operating as a proxy for the
3 Internet gateway and is capable of being assigned a unique client IP
4 address and a proxy IP address, and further wherein at least one of the
5 other computing devices is capable of accessing the Internet by
6 performing the steps of:

7 transmitting from the respective computing device to the proxy
8 IP address of the proxy a message to be sent to the Internet; and

9 transmitting from the proxy IP address of the computing device
10 assigned as the gateway for the network the message to be sent to the
11 Internet.

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1 15. (Original) The storage medium of claim 11, wherein at least
2 one of the other computing devices capable of connecting to the
3 Internet responds to the broadcasted request to become the gateway
4 for the network by performing the steps of:

5 determining whether the connection priority of the respective
6 computing device is higher than the connection priority included in
7 the broadcasted request to become the gateway;

8 if the connection priority of the respective computing device is
9 not higher than the connection priority included in the broadcasted
10 request, sending no response to the broadcasted request; and

11 if the connection priority of the respective computing device is
12 higher than the connection priority included in the broadcasted
13 request, performing the steps of:

14 broadcasting to the network a request to become the
15 gateway from the respective computing device within the
16 predetermined time period, wherein the request to become the
17 gateway includes the connection priority of the respective
18 computing device; and

19 assigning the respective computing device as the gateway
20 for the network if the respective computing device receives no
21 response from the other computing devices within the
22 predetermined time period.

1 16. (Original) In a network comprising a plurality of computing
2 devices, each computing device having a memory and being capable of
3 accessing the Internet, and at least one of the computing devices being
4 capable of connecting to the Internet, each computing device capable
5 of connecting to the Internet having a connection priority, a method
6 for assigning an Internet gateway for the network, comprising the
7 steps of:

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8 broadcasting to the network a request for a new gateway from
9 one of the computing devices;
10 in response to the request for new gateway, broadcasting to the
11 network a request to become the gateway from each computing device
12 capable of connecting to the Internet, wherein each request to become
13 the gateway includes the connection priority of the respective
14 computing device broadcasting the request to become the gateway; and
15 in response to the request to become the gateway, performing by
16 each computing device capable of connecting to the Internet steps of:
17 determining whether the connection priority of the
18 respective computing device is higher than the connection
19 priority included in the broadcasted request to become the
20 gateway; if the connection priority of the respective computing
21 device is not higher than the connection priority included in the
22 broadcasted request to become the gateway, sending no response
23 to the broadcasted request to become the gateway; and if the
24 connection priority of the respective computing device is higher
25 than the connection priority included in the broadcasted request
26 to become the gateway, performing the steps of:
27 broadcasting to the network a request to become the
28 gateway from the respective computing device within the
29 predetermined time period, wherein the request to become
30 the gateway includes the connection priority of the
31 respective computing device; and
32 assigning the respective computing device as the
33 new gateway for the network if the respective computing
34 device receives no response from the other computing
35 devices within the predetermined time period.

1 17. (Original) The method of claim 16, wherein the
2 predetermined time period is approximately 1 to 5 seconds.

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1 18. (Original) The method of claim 16, wherein each computing
2 device is assigned a unique Internet protocol (IP) address, further
3 comprising the steps of:

4 broadcasting to the network the IP address of the computing
5 device assigned as the new gateway for the network; and

6 storing in the memory of each computing device the IP address
7 broadcasted to the network as the IP address of the gateway for the
8 network.

1 19. (Original) The method of claim 16, wherein the computing
2 device assigned as the gateway for the network is assigned a unique
3 client IP address and assumes a predetermined gateway IP address.

1 20. (Original) The method of claim 16, wherein one of the
2 computing devices is capable of operating as a proxy for the Internet
3 gateway and is capable of being assigned a unique client IP address
4 and a proxy IP address, and further wherein at least one of the other
5 computing devices is capable of accessing the Internet by performing
6 the steps of:

7 transmitting from the respective computing device to the proxy
8 IP address of the proxy a message to be sent to the Internet; and

9 transmitting from the proxy IP address of the proxy to the
10 computing device assigned as the gateway for the network the message
11 to be sent to the Internet.

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1 21. (Original) A storage medium readable by a computing
2 device and having instructions encoded thereon for causing the
3 computing device to perform, in a network comprising a plurality of
4 computing devices, each computing device having a memory and being
5 capable of accessing the Internet, and at least one of the computing
6 devices being capable of connecting to the Internet, each computing
7 device capable of connecting to the Internet having a connection
8 priority, a method for assigning an Internet gateway for the network,
9 the method comprising the steps of:

10 broadcasting to the network a request for a new gateway from
11 one of the computing devices;

12 in response to the request for the new gateway, broadcasting to
13 the network a request to become the gateway from each computing
14 device capable of connecting to the Internet, wherein each request to
15 become the gateway includes the connection priority of the respective
16 computing device broadcasting the request to become the gateway; and

17 in response to the request to become the gateway, performing by
18 each computing device capable of connecting to the Internet the steps
19 of:

20 determining whether the connection priority of the
21 respective computing device is higher than the connection
22 priority included in the broadcasted request to become the
23 gateway;

24 if the connection priority of the respective computing
25 device is not higher than the connection priority included in the
26 broadcasted request to become the gateway, sending no response
27 to the broadcasted request to become the gateway; and

28 if the connection priority of the respective computing
29 device is higher than the connection priority included in the
30 broadcasted request to become the gateway, performing the steps

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31 of:

32 broadcasting to the network a request to become the
33 gateway from the respective computing device within the
34 predetermined time period, wherein the request to become
35 the gateway includes the connection priority of the
36 respective computing device; and
37 assigning the respective computing device as the
38 gateway for the network if the respective computing
39 device receives no response from the other computing
40 devices within the predetermined time period.

1 22. (Original) The storage medium of claim 21, wherein each
2 computing device is assigned a unique Internet protocol (IP) address,
3 and further wherein the method further comprises the steps of:

4 broadcasting to the network the IP address of the computing
5 device assigned as the new gateway for the network; and
6 storing in the memory of each computing device the IP address
7 broadcasted to the network as the IP address of the gateway for the
8 network.

1 23. (Original) The storage medium of claim 21, wherein the
2 computing device assigned as the gateway for the network is assigned
3 a unique client IP address and assumes a predetermined gateway IP
4 address.

1 24. (Original) The storage medium of claim 21, wherein one to
2 the computing devices is capable of operating as a proxy for the
3 Internet gateway and is capable of being assigned a unique client IP
4 address and a proxy IP address, and further wherein at least one of the
5 other computing devices is capable of accessing the Internet by
6 performing the steps of:

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7 transmitting from the respective computing device to the proxy
8 IP address of the proxy a message to be sent to the Internet; and
9 transmitting from the proxy IP address of the proxy to the
10 computing device assigned as the gateway for the network the message
11 to be sent to the Internet.

1 25. (Withdrawn) In a network comprising a plurality of
2 computing devices, each computing device having a memory and being
3 capable of accessing the Internet, and one or more of the computing
4 devices being capable of connecting to the Internet, and one of the
5 computing devices being assigned as a current Internet gateway for
6 the network, a method for assigning an Internet gateway for the
7 network, comprising the steps of:

8 detecting a failure to access the Internet through the current
9 Internet gateway by one of the computing devices;
10 in response to the detected failure, dynamically assigning one of
11 the computing devices capable of connecting to the Internet as a new
12 Internet gateway for the network; and
13 automatically reconfiguring each computing device to access the
14 Internet through the new Internet gateway.

1 26. (Withdrawn) The method of claim 25, wherein each
2 computing device is assigned a unique Internet protocol (IP) address,
3 and further wherein the step of automatically reconfiguring each
4 computing device to access the Internet through the new Internet
5 gateway further comprises the steps of:

6 broadcasting to the network the IP address of the computing
7 device assigned as the new Internet gateway for the network; and
8 storing in the memory of each computing device the IP address
9 broadcasted to the network as the IP address of the Internet gateway
10 for the network.

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1 27. (Withdrawn) The method of claim 25, wherein the
2 computing device assigned as the gateway for the network is assigned
3 a unique client IP address and assumes a predetermined gateway IP
4 address.

1 28. (Withdrawn) The method of claim 25, wherein one of the
2 computing devices is capable of operating as a proxy for the Internet
3 gateway and is capable of being assigned a unique client IP address
4 and a proxy IP address, and further wherein at least one of the other
5 computing devices is capable of accessing the Internet by performing
6 the steps of:

7 transmitting from the respective computing device to the proxy
8 IP address of the proxy a message to be sent to the Internet; and
9 transmitting from the proxy IP address of the proxy to the
10 computing device assigned as the gateway for the network the message
11 to be sent to the Internet.

1 29. (Withdrawn) The method of claim 25, wherein the step of
2 dynamically assigning one of the computing devices capable of
3 connecting to the Internet as the new Internet gateway for the network
4 further comprises the steps of:

5 in response to the detected failure, broadcasting to the network a
6 request to become the gateway from one of the computing device
7 capable of connecting to the Internet, wherein the request to become
8 the gateway includes the connection priority of the computing device
9 broadcasting the request; and

10 assigning the computing device broadcasting the request as the
11 new Internet gateway for the network if the computing device
12 broadcasting the request does not receive a response from the other
13 computing devices within a predetermined time period.

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1 30. (Withdrawn) The method of claim 29, wherein the
2 predetermined time period is approximately 1 to 5 seconds.

1 31. (Withdrawn) The method of claim 29, wherein at least one
2 of the other computing devices capable of connection to the Internet
3 responds to the broadcasted request to become the gateway by
4 performing the steps of:

5 determining whether the connection priority of the respective
6 computing device is higher than the connection priority included in
7 the broadcasted request to become the gateway;

8 if the connection priority of the respective computing device is
9 not higher than the connection priority included in the broadcasted
10 request to become the gateway, sending no response to the
11 broadcasted request; and

12 if the connection priority of the respective computing device is
13 higher than the connection priority included in the broadcasted
14 request to become the gateway, performing the step of:

15 broadcasting to the network a request to become the
16 gateway from the respective computing device within the
17 predetermined time period, wherein the request to become the
18 gateway includes the connection priority of the respective
19 computing device; and

20 assigning the respective computing device as the new
21 Internet gateway for the network if the respective computing
22 device receives no response from the other computing devices
23 within the predetermined time period.

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1 32. (Withdrawn) The method of claim 31, wherein each
2 computing device is assigned a unique Internet protocol (IP) address,
3 and further wherein the step of automatically reconfiguring each
4 computing device to access the Internet through the new Internet
5 gateway further comprises the steps of:

6 broadcasting to the network IP address of the computing device
7 assigned as the new Internet gateway for the network; and

8 storing in the memory of each computing device the IP address
9 broadcasted to the network as the IP address of the Internet gateway
10 for the network.

1 33. (Withdrawn) The method of claim 31, wherein the
2 computing device assigned as the gateway for the network is assigned
3 a unique client IP address and assumes a predetermined gateway IP
4 address.

1 34. (Withdrawn) The method of claim 31, wherein one of the
2 computing devices is capable of operating as a proxy for the Internet
3 gateway and is capable of being assigned a unique client IP address
4 and a proxy IP address, and further wherein at least one of the other
5 computing devices is capable of accessing the Internet by performing
6 the steps of:

7 transmitting from the respective computing device proxy IP
8 address of the proxy a message to be sent to the Internet; and

9 transmitting from the proxy IP address of the proxy to the
10 computing device assigned as the gateway for the network the message
11 to be sent to the Internet.

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1 35. (Withdrawn) A storage medium readable by a computing
2 device and having instructions encoded thereon for causing the
3 computing device to perform, in a network comprising a plurality of
4 computing devices, each computing device having a memory and being
5 capable of accessing the Internet, and one or more of the computing
6 devices being capable of connecting to the Internet, and one of the
7 computing devices being assigned as a current Internet gateway for
8 the network, a method for assigning an Internet gateway for the
9 network, the method comprising the steps of:

10 detecting a failure to access the Internet through the current
11 Internet gateway by one of the computing devices;

12 dynamically assigning one of the computing devices capable of
13 connecting to the Internet as a new Internet gateway for the network;
14 and

15 automatically reconfiguring each computing device to access the
16 Internet through the new Internet gateway.

1 36. (Withdrawn) The storage medium of claim 35, wherein each
2 computing device is assigned a unique Internet protocol (IP) address,
3 and further wherein the step of automatically reconfiguring each
4 computing device to access the Internet through the new Internet
5 gateway further comprises the steps of:

6 broadcasting to the IP address of the computing device assigned
7 as the new Internet gateway for the network; and

8 storing in the memory of each computing device the IP address
9 broadcasted to the network as the IP address of the Internet gateway
10 for the network.

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1 37. (Withdrawn) The storage medium of claim 35, wherein the
2 computing device assigned as the gateway for the network is assigned
3 a unique client IP address and assumes a predetermined gateway IP
4 address.

1 38. (Withdrawn) The storage medium of claim 35, wherein one
2 of the computing devices is capable of operating as a proxy having a
3 unique sending IP address and a unique receiving IP address, and
4 further wherein at least one of the other computing devices is capable
5 of accessing the Internet by performing the steps of:

6 transmitting from the respective computing device to the
7 receiving IP address of the proxy a message to be sent to the Internet;
8 and

9 routing from the sending IP address of the proxy to the
10 computing device assigned as the gateway for the network the message
11 to be sent to the Internet.

1 39. (Withdrawn) The storage medium of claim 35, wherein the
2 step of dynamically assigning one of the computing devices capable of
3 connecting to the Internet as the new Internet gateway for the network
4 further comprises the steps of:

5 broadcasting to the network a request to become the gateway
6 from one of the computing devices capable of connecting to the
7 Internet, wherein the request to become the gateway includes the
8 connection priority of the computing device broadcasting the request;
9 and

10 assigning the computing device broadcasting the request as the
11 new Internet gateway for the network if the computing device
12 broadcasting the request does not receive a response from the other
13 computing devices within a predetermined time period.

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1 40. (Withdrawn) The storage medium of claim 39, wherein at
2 least one of the other computing devices capable of connecting to the
3 Internet responds to the broadcasted request to become the gateway by
4 performing the steps of:

5 determining whether the connection priority of the respective
6 computing device is higher than the connection priority included in
7 the broadcasted request to become the gateway;

8 if the connection priority of the respective computing device is
9 not higher than the connection priority included in the broadcasted
10 request to become the gateway, sending no response to the
11 broadcasted request; and

12 if the connection priority of the respective computing device is
13 higher than the connection priority included in the broadcasted
14 request to become the gateway, performing the steps of:

15 broadcasting to network a request to become the gateway
16 from the respective computing device within the predetermined
17 time period, wherein the request to become the gateway includes
18 the connection priority of the respective computing device; and

19 assigning the respective computing device as the new
20 Internet gateway for the network if the respective computing
21 device receives no response from the other computing devices
22 within the predetermined time period.